

COTTONWOOD CREEK DOUG JOHNSON PROJECT:

On June 8, 2011, a flood estimated at over 1100 cfs (over 50-year event) passed through the project area. The design team had done x-section surveys prior to this time, and was able to return and re-survey to determine the nature of the channel changes caused by this flood. One short reach of the channel on the property (as well as many well-vegetated, undisturbed reaches upstream) did not change perceptibly despite the magnitude of this flood. This stable reach was relatively well-vegetated and had a broad accessible, vegetated floodplain. This reach was one indicator of “reference” characteristics for channel and floodplain.

Channel morphology and hydrology/ hydraulic design parameters:

Bankfull flow: 275 cfs (confirmed with 16 years of USFS data on site) Rosgen channel type: C4

Thalweg slope: 0.013

D50= 32 mm (post-flood)

Sinuosity: 1.3

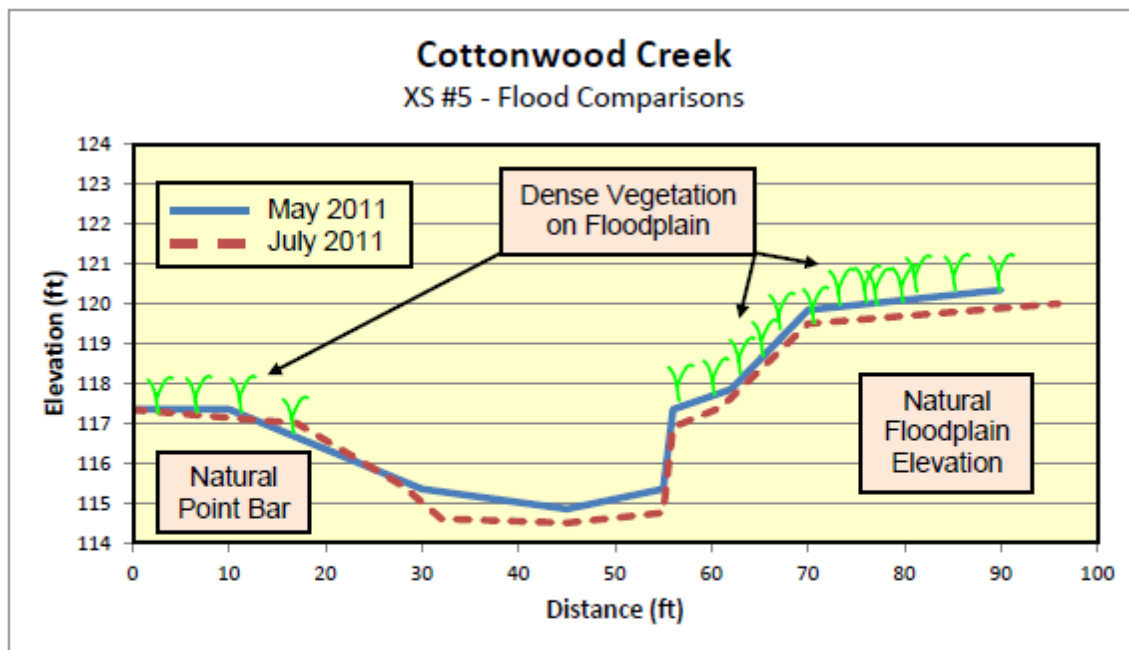
Bankfull width (riffles): 24.5 to 28 feet Bankfull width (pools): 39-41 feet

Bankfull depth (riffles): 1.3 ft.

Bankfull depth (pools) : 2.4 to 2.7 ft.

Residual pool depths: >1.25 ft

Floodplain width for 50-year event: 100 ft.



1 - All cross-sections were taken from left bank to right bank looking downstream.

2 - W_{BKF} - Bankfull Width and D_{BKF} - Bankfull Depth, measurements in feet

Figures 4 - 7. These pictures of the Cottonwood Creek project site show channelized stream reaches, eroding streambanks, poor habitat conditions, and a lack woody understory vegetation throughout the riparian corridor due to historic over-grazing.

